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ORIGINAL COMMUNICATIONS.

RUBBER BANDAGE.

BY HENRY A. MARTIN, M.D.

IT was not till a few days since that I encountered and read the paper of Dr. C. H. Thomas, in the issue of the *Times* for December 6, on the use of the pure-rubber bandage in the treatment of ulcers of the leg; I did so with great pleasure. In the large amount of writing which has already been published on the subject since I first publicly announced the method to the profession in June, 1877, nothing, it seems to me, evinces a more thorough appreciation of the value of the innovation or of the principles on which it accomplishes very desirable ends. I commend it most cordially to all readers. Dr. Thomas's method of applying a piece of muslin or linen between the sore and the bandage, at any rate when the former is irritable, I approve, although it is opposed to directions given in papers which I have published. In my wish to simplify the method, to avoid the redundant superfluity which complicates many modern surgical processes, I think that I have been too sweeping in ordering no application whatever *in any case* but the bandage *pur et simple*. I find, however, this simple addition very seldom necessary or even desirable. In a few cases I have laid immediately over the sore a piece of thin pure-rubber sheeting extending about one inch beyond its edge in all directions, and in a few more I have used a similar piece of moist vellum, which was, in ancient surgery, a favorite application under the bandage or laced stocking to these ulcers of the leg.* So far as my, as yet, very limited experience on this point goes, I think I prefer the latter to the pure rubber, *but always under the pure-rubber bandage*. There is one part of the record of the very interesting discussion on Dr. Thomas's paper in regard to which I wish to make a remark or two. I quote a portion of Dr. Thomas's remarks: "As regards the question of priority in its" (the bandage's) "use, he believed the credit is due to Dr. Martin, of Boston, *although he does not claim it*, but for the last twenty-five years he has had it in constant use, and has finally brought it to the notice of the profession." Dr. Thomas writes, in a letter received by myself to-day, that the record is erroneous so far as the words in italics are concerned.

I most certainly *do*, clearly, indubitably, and fully, claim priority in the use of the pure-rubber bandage, not only in the treatment of ulcers of the leg, but in many other classes of disease and lesion, fully indicated in my original paper addressed to the American Medical Association in June, 1877. I have not had leisure as yet to describe the application of my bandage in the cases referred to as fully as I have done in regard to ulcers of the leg, but it is my intention to develop fully the methods of treatment in all the very numerous applications thereof made by myself, in papers already in course of preparation. At the next meeting of the Association I propose to offer one of these, "On the use of the pure-rubber bandage in certain diseases and injuries of the joints," a subject treated, to a certain extent, in papers of mine already published, but not as yet in a way at all commensurate with its great importance and value, as demonstrated by quite large and fully adequate practical experience and observation. This paper will be followed, as soon as may be, by others on its applicability to (1) certain cutaneous affections; (2) phlebitis in all its forms, stages, and sequelæ affecting the extremities; (3) sciatica and other forms of neuralgia of the limbs; (4) all forms of œdema and anasarca of the extremities, and in certain other parts of the body; (5) in certain conditions of congestion and inflammation, and its complications and sequelæ; (6) in certain forms of fracture of the bones, and especially in some conditions frequently following such lesions, the result of effusion of various sorts about their seat; (7) in cases of contusion and ecchymosis and their consequences; (8) in certain forms of abscess and their consequences, as sinuses, induration, contraction, and other damage to muscles, etc.; (9) in many cases of disease of bursæ mucosæ, the thecæ of

* Several Chirurgical Treatises. By Richard Wiseman, Sergeant-Chirurgeon. The Second Edition. Folio. London, 1686, p. 201. To whoever may be so fortunate as to obtain this admirable old surgical work, I would commend a careful study of the whole section entitled "A Treatise of Ulcers," page 163 to page 207 inclusive, before they make, or, at all events, *publish*, any great *original* discoveries and inventions in this part of surgery.

tendons, etc., and their consequences, etc. This is a long list, but it by no means exhausts that of the cases in which an ample experience of more than twenty-five years has, *in actual practice*, demonstrated the great value of the pure-rubber bandage in surgery. This brings me back to my "*moutons*," the question of priority. Dr. Thomas's remarks were probably called forth by a previous statement of Dr. John B. Roberts, to the effect that Dr. William B. Hopkins had "discovered its" (the bandage's) "value independently of the researches of Dr. Martin, and before the article of Dr. Martin was published." I am sorry that Dr. Roberts thought it worth while to make this claim. At what time Dr. Hopkins made the discovery is not mentioned, but probably in 1876, as that is the date mentioned by Dr. Roberts of Dr. Hopkins's use of the bandage in cases of "leg ulcers."

I do not wish to trespass unduly on your space, and will, as briefly as possible, say that this is the very first claim of the sort set up in the more than two and a half years since my announcement at Chicago.* I am much gratified and somewhat surprised at this, for one of the very strongest reasons, in my mind, for not having much sooner publicly announced my method was a peculiar dread of the always inevitable claimants for priority in *every* new discovery, and the odious, tedious discussions into which disproval of such claims would surely lead me. I cannot blame myself, however, for withholding from the profession, for so many years, a method the value of which I had fully proved. *I did not keep it a secret.* During nearly all the more than twenty-five years since I first employed bandages of pure rubber in surgery, and in some medical cases, I have never omitted an opportunity of communicating what I had learned on the subject to all who would listen. In this way I must have spoken, as fully as knowledge at the time enabled me, to hundreds of physicians. I spoke of the manifold virtues of pure-rubber bands and bandages at medical societies and clubs, wherever two or three doctors were gathered together; yea, often, when I had but a single listener, he could seldom escape. I think most of these paid little regard to what I said, and never made any practical use of the information I gave so freely; but there were exceptions. To many such I furnished bandages from my private stock, and they employed them successfully. One distinguished surgeon of New Hampshire† many years ago and since, till the "Martin bandage" became an article of commerce, requested me, when I was having bandages manufactured, to add considerably to my order, for bandages to be used in his own practice. Two of the *gentlemen* to whom, more than fifteen years ago, I thus frankly

* In making this assertion I am not ignorant or unmindful of the following note to a paper on the "Treatment of Ulcers, etc., by Martin's Pure-Rubber Bandage," by F. H. Stuart, M.D., published in the Proceedings of the Medical Society of Kings (N.Y.) for November, 1879. "In Liston's Elements of Surgery, edited by Dr. S. D. Gross, and published in Philadelphia in 1842, p. 133, referring to varicose veins, occur these words: 'the india-rubber bandage, *worn over the stocking or drawers*, answers as well as any other method.'"

The note, commenting on this, goes on, "We see in this re-discovery or revival of the use of the rubber bandage, another instance of the repetitions of history," and a good deal more in the same philosophic vein. If the gentleman had read my principal paper on the bandage with the critical care and thoroughness proper in one contemplating a treatise on the subject, he would have discovered that I have (p. 22 of the pamphlet; p. 608 of the volume of Transactions of the American Medical Association for 1877) fully stated the way in which bandages of india-rubber had been used in the palliative treatment of varicose veins previous to the reading of my first paper, and probably long enough before I had ever employed a pure-rubber bandage. I do not claim to be the first person who ever devised or employed, *in any way*, bands or bandages of india-rubber. Esmarch's bandage, as described by its inventor, is of "webbing," a woven fabric, but it is often made, particularly in this country, of india-rubber alone, and it was in use long before any *printed* publication of mine on this subject; and other forms of elastic bandage, in rubber as well as other material, were well known in surgery, both human and veterinary, long before I published anything, and, likely enough, before I first gave the matter a thought.

My claim is, *not* that I first discovered that india-rubber was elastic and that it retained its elasticity even when cut into bands and bandages, but that such bandages, of proper make and material, might be worn next and closely applied to the skin for long periods of time, not only without danger to the circulation or in other ways, but with very great safety and advantage, and become the means of accomplishing, with wonderful rapidity and thoroughness, results which had been sought with only partial success, or with none at all, by other devices, during the whole previous history of surgery. That an author shou'd entitle the effects obtained by my method of employing perfectly smooth bandages of pure rubber in immediate, close, and continued contact with the skin, results of a "*re-discovery or revival*" of a *suggestion* to bind varicose legs with india-rubber bandages "*outside stockings or drawers*," is simply a marvel, the more subtle grounds and reasons for which I shall not waste time in attempting to guess. I have not a doubt that the very distinguished gentleman who has been put forward, on such extremely flimsy grounds, as the original discoverer and practitioner of my method of using the pure-rubber bandage, would be the first to repudiate such a claim. Unlike some men, unfortunately prominent in the surgical department of our profession, Dr. Gross can well afford and is well disposed to rest on the laurels he has honorably and fairly won, and to let those, as honorably and fairly, though not so abundantly gained by others, alone. He is not a daw in peacock's feathers, no Icarus soaring towards the bright sun of professional fame on wings of the wax-fastened and *brass*-fastened feathers torn and stolen from dead and less fortunate and audacious, and so unsuccessful and forgotten, aspirants. Every plume in the broad, strong pinions of our old eagle grew and belongs there. Long may they sustain him in his proud "place of vantage" in the very empyrean of American surgery!

In my pamphlet (note to p. 4, p. 590 of volume of Transactions for 1877) I give full details of the peculiar and successful use of Esmarch's bandage in ulcers of the leg by Dr. S. D. Turney, of Circleville, Ohio, London Practitioner, May, 1876).

† George A. Crosby, M.D., of Manchester, N.H.

and fully told all I then knew, and to whom I furnished bandages, I have lately unpleasantly heard of, as conveying to their sympathizing hearers a claim to priority, on the ground of having "so many years ago employed the pure-rubber bandages in their practice." These worthies have been *very* private in their talk, even confidential, and I have neither apprehension nor hope that they will ventilate their griefs in the garish publicity of print. One of them, an Irishman, has *probably* read, as he most *certainly* is a disciple, of that distinguished compatriot who complained so bitterly that "that confounded fellow Shakspeare stole all his [the Irish dramatist's] ideas from him." Since 1869, having then fully satisfied myself of the great value of the pure-rubber bandage, by long and carefully-noted experience, I was very anxious to publish the method. I did not, however, think it best to rush into print in our local and peculiarly provincial medical journal, in whose pages, with wings and tail sadly clipped by the relentless shears of "editorial privilege," my poor little fledgling would have feebly piped his unnoted song and been forgotten, to be picked up again, perhaps, by and by, and fondly nurtured by the blatant Boanerges who has so kindly gathered up so many similar untimely surgical births and nursed them into the great ORIGINAL inventions and theories which have *so justly* or, at any rate, so *inevitably* placed him in the front rank of the American profession, and made him the honored, fêted guest of the surgical profession of the world. In that year (1869) I first attended a meeting of the American Medical Association, and took a bandage with me, hoping for an opportunity to speak about it. In 1873 I took one to England with the same hope. In 1876, at Philadelphia, I hoped also for an opportunity to speak about the bandage, but it was not till 1877, by the courtesy of Dr. F. H. Hamilton, chairman of the Section of Surgery, that the opportunity I had so long vainly sought, to address some large representative assemblage of the whole profession, was offered and improved. On all these and many other occasions, although I made no public and general announcement, I availed myself of every opportunity to speak of the bandage to all who would "give me ear;" *and this was particularly the case at Philadelphia in 1876* [the year, by a remarkable *coincidence*, in which Dr. Hopkins "discovered the value of the pure-rubber bandage independently of the researches of Dr. Martin"]. I assiduously attended that entire session of the Association, despite the marvellous attractions of the Centennial Exhibition, was introduced to a great many physicians of Philadelphia and elsewhere, and, to all to whom I could easily and naturally do so, spoke of my "hobby," the pure-rubber bandage, and its various applications.

27 DUDLEY ST., BOSTON, January 6, 1880.

MERCURIC BICHLORIDE IN DYSENTERY AND DIARRHŒA.

BY BOARDMAN REED, M.D.,
Atlantic City, N.J.

DURING the last two years I have been testing the treatment of dysentery and dysenteric diarrhœa by the bichloride of mercury in somewhat minute doses, as recommended by Dr. Sydney Ringer. My experience with this treatment covers a large number of cases, including most of the varieties of intestinal flux ordinarily seen in this latitude. It has been found particularly valuable in those forms of chronic diarrhœa characterized by dysenteric symptoms, such as the presence of mucus or blood in the stools, with or without tenesmus.

In acute cases this remedy is slow in acting, and in my hands has proved much less successful,—at least until after a purge of castor oil and laudanum has removed the offending cause.

The following transcript from my case-book well illustrates the power of the bichloride in obstinate chronic dysentery:

Case I.—July 4, 1878. Consulted by J. J., aged 45; occupation, formerly a sailor; has lately done odd jobs when able to get about. Weight now about one hundred and twenty-four pounds; looks thin, sallow, feeble, and prematurely old. Gives the following history. In 1865, while in the army, had an attack of dysentery, from which he recovered in five months. No venereal taint can be detected. Since 1874 he has suffered continually with dysentery. Has had numerous loose passages every day, with blood and slime; also constant pain in the bowels, and part of the time "a burning like fire" on defecation. Has fever some of the time, and is never free from pain. During these four years he has tried all sorts of treatment without success. Some of the various treatments increased his strength,

but nothing produced any notable effect on the flux. He is now having eight or ten stools a day, and is unable to sleep at night on account of the pain. Prescribed for him hydrarg. chlor. corros., gr. ½, dissolved in distilled water, f℥vj, and directed him to take a teaspoonful every two hours. For diet, directed him to drink freely of boiled milk, and to take with this stale bread or crackers, soups, and fresh beef or mutton, stewed, broiled, or roasted.

July 8.—Returns to-day, at the end of four days, with his medicine all taken, though it should have lasted him nearly a week. Says he has taken it regularly every two hours, day *and night;* being unable to sleep, thought he might as well take it right along. Reports decided improvement, now having only four stools a day, which are more natural in character. No blood, but little slime, and very little pain. Continue bichloride.

July 13.—Comes back in high glee to-day. Says his stools are reduced to *one a day*, and that he has *no more pain*. Feels very much stronger and better every way. Has gone to work. For a long time before he has been unable to do anything. The bichloride continued.

July 20.—Thinks he was "bound up" a little at his last visit, but has since been having three natural yellow stools a day, "about as thick as mud." No slime in them, and only occasionally a slight show of blood, since a few days after beginning the medicine, until last night, when some blood reappeared. Had been eating ham yesterday morning, and oysters in the afternoon. [At this season oysters are a prolific source of diarrhœa here, even in healthy persons.] Has had no more tenesmus at all. He has gained four pounds in weight, and since last here has been steadily at work.

July 26.—Reports himself still improving. Day before yesterday he walked ten miles. Over-exercise makes him worse. Has now about three stools a day, but of thicker consistence than before. Treatment continued.

August 2.—Been having four passages a day for the last four days. This increase probably due to leaving off his milk. Directed him to resume the milk, and go on with the bichloride as before. Has now gained five pounds since beginning treatment. Ordered him also a mild tonic mixture of tincture of nux vomica and fluid extract of chiretta, to be taken in small doses before meals; and a solution of zinc sulphate, gr. ii to f℥i, as an injection per rectum twice a day.

August 10.—Still gaining. He now weighs one hundred and thirty pounds, a gain of six pounds. Looks quite plump in the face. Has two passages a day, of nearly natural color and consistence. His stools to-day were so hard as to bring away a few drops of blood. The injections relieved some little smarting in the rectum, which had been still troubling him. Feels no pain in his abdomen, except occasionally after unusual exertion. Continued the bichloride, and also the injection, as well as the bitter tonic.

From this time patient progressed steadily, and was discharged as well August 29. He had gained in weight eleven pounds.

He remained well till about the middle of November, when a severe cold brought on a return of the dysentery. He obtained a bottle of the bichloride again, and without any other medicine, or even a return to the use of milk, soon recovered. In the January following, a worse cold produced another attack, complicated with bronchitis. He was given hydrarg. bichlor. gr. $\frac{1}{100}$ every two hours, and an emulsion of cod-liver oil, with lactophosphate of lime. The cough got no better, and the diarrhœa was aggravated by the oil. Then stopped the latter, and let him continue the bichloride, with only some simple domestic cough syrup. The diarrhœa now soon yielded, and later the cough, his weight being restored to one hundred and thirty-five pounds.

This patient has since returned to his old occupation as sailor, and after living on salt pork, etc., during a long cruise, has two or three times had a return of the flux, but this has uniformly yielded promptly and completely to the bichloride in the same small doses; and so long as he remains at home, paying proper attention to diet (that is, avoiding articles notoriously hurtful to persons not possessed of strong digestive powers), he continues fairly well, though by no means robust.

Remarks.—At first, when the disease was deeply rooted and the patient's constitution seriously impaired, the remedy would scarcely have proved so rapidly curative, and perhaps might have failed altogether, if a favorable diet had not been insisted upon; but it will hardly be claimed that diet alone, without any medicine, could have accomplished equally brilliant results. The astringent enemata performed a good service in removing some remains of inflammation in the rectum. The corrosive sublimate seems to exert less influence over this part, though apparently manifesting a selective action upon the colon.

In most of my other cases the medicine did its work so quickly that the notes are necessarily short.

Case II.—February 24, 1879, A. H., clerk, aged 26, of slender frame, and evidently strumous diathesis, consulted me on account of a chronic diarrhœa of the lienteric type. He had a loose movement after each meal; was often "taken short," receiving very little warning. He had doctored much, having suffered from the disease most of the time for a year and a half. Had taken opiates and

astringents in all forms without benefit, and had been for some time under the treatment of an intelligent homœopathic practitioner. I prescribed bitter tonics, and also hydrarg. chlor. corros. gr. $\frac{1}{100}$ every two hours. Patient reported a week later that he was much better and gaining in weight. After the first few days, finding it inconvenient to take the medicine so often, he had taken treble the dose, or about gr. $\frac{1}{33}$, before each meal, and apparently with equal improvement. A short time subsequently he reported himself entirely cured.

December 20.—Patient reported that he has continued free from diarrhœa.

Cases III. and IV.—These were both cases of non-febrile dysenteric diarrhœa in very delicate, feeble, lying-in women. The patients had a tendency to chronic diarrhœa, one of them having been thus afflicted for over a year, following a previous confinement. Other treatment failing, I placed them upon the bichloride of mercury, in $\frac{1}{100}$ grain doses, with the effect of checking the flux in two days, improving at the same time their strength and appetite. In one of these cases the diarrhœa reappeared in a modified form immediately upon discontinuing the remedy, but stopped again upon its being resumed.

Remarks.—In Case II. the good effect of the mercury was manifest, for the patient had previously taken tonics alone without any satisfactory results. His experience with an increased dose and longer intervals is suggestive. I have had no opportunity of trying the remedy further in cases of lienteria, though many more instances might be cited of its value in dysenteric diarrhœa. Its curative power in certain of the intestinal catarrhs of children especially has been frequently noted, but this paper is already too long, and further reports must be deferred. Nor is there space left for speculations as to the mode of action of corrosive sublimate in diarrhœa.

Briefly, it may be said that the bichloride of mercury in its action resembles somewhat the nitrate of silver, sulphate of copper, and various other metallic salts, which, in small doses, produce astringent and tonic effects, though in sufficiently large doses they may cause purging and prostration.

ACCUMULATION OF CERUMEN SIMULATING CHRONIC BRONCHITIS.—Dr. J. R. Leeson sends to the *Lancet* (December 6, 1879) notes of a case of apparent severe bronchitis, all the symptoms of which disappeared when the ear was relieved of a quantity of inspissated cerumen.

A NOTE ON THE CHEMISTRY OF PHENOL AND THE EFFECTS OF THE SULPHO-CARBOLATES.*

BY DAVID CERNA, M.D., PH.D.

IN a paper on "Phenol" which I had the pleasure of reading before the Society at the last meeting, I somewhat discussed the subject of *phenol-sulphuric acid.* I mentioned that Baumann was of the opinion that the antidotal powers of the soluble sulphates in phenic acid poisoning depended largely, and, indeed, wholly, upon the formation in the economy of this phenol-sulphuric acid.

I said then, judging from some chemical researches that I had made, that I was inclined to disbelieve the statement of Baumann, on the ground that I had been unable to find this new substance. I then proceeded to relate the chemical studies I had made, which had appeared to be of a negative character.

I resumed my investigations on this part of my paper in the chemical laboratory of the university, and, as the result of my observations so far, I must now state that I have been successful in obtaining a sulpho-carbolate. My studies were made as follows:

A ten per cent. solution of the pure crystalline carbolic acid was made. Of the magnesium sulphate (the salt used in all these investigations), a solution of half a gramme to the cubic centimetre of distilled water was prepared. Combinations of these two solutions were then made thus:

First. Twenty-five cubic centimetres of the phenol solution and twenty-five of the salt solution.

Second. Fifteen cubic centimetres of the acid solution and twenty-five of the salt solution.

Third. Ten cubic centimetres of the phenol solution and twenty-five of the salt solution.

Fourth. Five cubic centimetres of the acid solution and twenty-five of the salt solution.

All these mixtures were allowed to evaporate spontaneously and over sulphuric acid for some days, and afterwards treated by the application of different degrees of heat, using water-baths. In all these pro-

* The first portion of this article was read before the Society of the Alumni of the Auxiliary Department of Medicine, University of Pennsylvania.

cedures only negative results were obtained.

A very concentrated solution of the magnesium sulphate (sixty per cent.) was then prepared, and the following combinations with the acid were made, using this time the melted crystals of the pure phenol:

First. Ten cubic centimetres of the phenol and fifteen of the salt solution.

Second. Five cubic centimetres of the acid and twenty of the salt solution.

Third. Five cubic centimetres of the phenol and thirty of the salt solution.

Fourth. Five cubic centimetres of the acid and fifty of the salt solution.

The *first* and *second* mixtures were allowed to evaporate over sulphuric acid during the period of four days; the other two spontaneously in the same time. At the end of this time these mixtures were examined, and I found that the *first* and *second* had combined, the other two remaining intact. Of these two combinations that had apparently mixed, almost all of the first and the greater portion of the second had been converted into a solid crystalline mass, to which I immediately proceeded to apply the most characteristic tests for the sulpho-carbolates, as given by Mr. Allen in his "Commercial Organic Analysis," vol. i. p. 325, 1879. In the first place, the mass was found soluble in water, more so in alcohol, especially when hot, but insoluble in ether, thus behaving in all, according to Mr. Allen, like the salts of *phenyl-sulphuric acid.*

If a liquid containing sulpho-phenic acid is boiled for a little while with an equal bulk of strong nitric acid, and then the solution is neutralized with a solution of potassa, a yellow color is produced, due to the formation of potassium picrate. The new mass responded to this test. It is found, however, that phenol itself behaves in the same way: so that the reaction exhibited might have been due to a probable amount of phenic acid having remained uncombined in the mass under consideration.

The reaction of sulpho-phenic acid with nitric acid also results in the formation of sulphuric acid. "Hence," says Mr. Allen, "if any sulphates originally present be removed by the addition of an excess of barium chloride, and the solution be then boiled with nitric acid, white insoluble barium sulphate will be thrown down *if* a sulpho-phenate were present." A solution of the mass in question was for a minute boiled with strong nitric acid, after which an excess of the chloride of barium was added, and thus the sulphates which may have been, and indeed were, present were removed. The filtered solution, then destitute of the sulphates, was afterwards boiled with nitric acid, and as the result of this procedure there was thrown down the white insoluble sulphate of barium, this giving evidence of the existence of a *sulpho-phenate* or sulpho-carbolate. The new mass also gave a deep purple color with ferric chloride, a behavior which is characteristic of phenyl-sulphuric acid. Most of its crystals were needle-like, some of them presenting the form of prisms, due evidently to some of the alkaline salt having remained uncombined. The substance proved to be, then, the sulpho-carbolate of magnesium.

For purposes of experimentation with the sulpho-carbolate of magnesium, to see whether it possessed poisonous effects at all on animals, the salt was prepared as follows. Proportionate quantities of pure phenol and chemically pure sulphuric acid were placed in a flask, and left to stand for the space of twenty-four hours, at the end of which time heat was applied to the mixture to insure a more complete formation of the phenyl sulphuric acid. To this liquid was then added carbonate of magnesium till effervescence ceased. Evaporation was then resorted to, by means of heat. As the result of this procedure the crystals of the magnesium sulpho-carbolate were obtained, proved to be this salt by the tests already mentioned. Experiments were made with this substance, and also with the phenyl-sulphuric acid itself, and with the sulpho-carbolates of sodium and potassium kindly furnished me by Prof. H. C. Wood.

From a large number of experiments I have found that the acid and its salts are poisonous to cold-blooded animals, but not to warm-blooded animals.

I have employed the sulpho-carbolate of magnesium, of sodium, and of potassium, and the phenol-sulphuric acid itself. The latter agent, however, seems to be a mild caustic.

Then the question comes up again, "Are the antidotal powers of the soluble sulphate in phenic acid poisoning due to the formation in the system of phenol-sulphuric

acid?" I am still inclined to disbelieve the statement Baumann puts forth, that this substance is formed in the economy when the phenol and the sulphates circulate there.

In my experiments, it was only when a very concentrated solution of the salt and the pure phenol were used that a combination resulting in the production of the sulpho-carbolate was obtained. Mr. Allen states (*loc. cit.*) that if the salt and the phenic acid go beyond a certain point of dilution no combination will take place, a fact which I believe I have been able to confirm in my experiments.

Now, it must be remembered that when both substances, the phenic acid and any of the soluble sulphates, are circulating in the animal economy, they must be in a very dilute form, and, under such circumstances, how can they produce a sulpho-carbolate? Of course the only decisive evidence would be the finding of the phenic-sulphuric acid or its salt in the blood of the animal to which the sulphate and the phenic acid have been administered. But until a careful chemical analysis of the blood under these circumstances shall reveal unquestionably the existence of sulpho-phenic acid or any of its derivative salts, we are not justifiable in accepting Baumann's assertion of a chemical antidote.

To what, then, for the time being, at least, can we attribute the powers of the soluble sulphates in warding off a fatal issue by carbolic acid? To a physiological action of the salts? Perhaps; and not, I think, to a direct but to a remote action of these agents. It is true that the alkaline sulphates, especially those of magnesium and sodium, do not possess any very marked physiological effects even when given in large quantities. Yet they may intimately alter the tissues themselves in some manner as yet unknown, and thus they may be enabled, so to speak, to conquer a more powerful foe.

I must conclude, then, as follows:

I. The sulpho-carbolates possess toxical properties for cold-blooded animals.

II. In warm-blooded animals these salts are innocuous.

III. Baumann's assertion of the soluble sulphates acting as a chemical antidote in phenic acid poisoning cannot, so far, be accepted as a true one.

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CASE OF PUERPERAL SEPTICÆMIA CAUSING SYMPTOMS OF CEREBRO-SPINAL MENINGITIS.

BY G. HAYWARD COBURN, M.D.,

Fredericton, N.B., Canada.

I WAS called, on the evening of December 9, about four miles in the country, to attend Mrs. M. during a miscarriage at the sixth month, and was told that eighteen months ago she had miscarried at the same time. Five years ago she had cerebro-spinal meningitis, since which time she had never been strong. Both her last deliveries had been instrumental, from failure in uterine contractions.

Upon arrival, I found the os uteri well dilated, the liquor amnii evacuated, and the arm and shoulder presenting. The uterus was not contracting. By manipulation I endeavored to bring the vertex to the proper position, but failed. I then gave chloroform and delivered, by podalic version, a six-and-a-half-months' living fœtus. The uterus contracted well under the influence of ergot and pressure. During the few days succeeding, the patient did well, except that her urine had to be drawn off. The pulse ranged from 80 to 85.

Upon the evening of December 13, word came to visit Mrs. M. in haste. Upon arrival, I found her with pulse at 120, high temperature, extreme tenderness over uterine region, with some pain in head. Early in the evening she had had a chill. The lochia were scanty and very offensive; vaginal mucous membrane hot and tumid. Upon inquiry I elicited the fact that the carbolized injections which I had ordered had not been properly used. Upon introducing the catheter a small quantity of dark-colored, offensive urine flowed away. She was also much distressed by flatulence. I used the vaginal syringe thoroughly with carbolized water, and applied warm fomentations to abdomen. Ordered quinine and sodium hyposulphite, also chloral and potassium bromide.

December 14, seventy-five grains chloral and one hundred grains bromide were required to produce sleep. The patient woke somewhat easier, but pain in head soon returned. Pulse 135; temperature high; tongue foul and swollen. Tenderness in uterine region so great that she could scarcely bear the touch of the bed-clothing. Pain in head (occipital region) worse, and extending to back of neck.

Ordered ice to head, with continuation of treatment,—enough of chloral mixture to relieve pain and produce sleep; catheter used, and carbolized injections continued. Lochia still offensive.

15th.—Uterine tenderness better, and lochial discharge not so offensive; pain in head and neck worse, extending down back. The head was now drawn back and quite rigid, the least attempt to move it causing a scream of pain; there was also intolerance of light. Pulse 140, and compressible; burning heat and great thirst; nearly choked at times with eructations from stomach, for which I ordered sodii bicarb. and aq. menth. pip. Continued treatment, with an abundance of milk and beef-tea; ice to suck. Retention still continues.

16th.—Had a bad night; wild with delirium; chloral had no effect. Pulse 140 and irregular; bowels constipated. Substituted for chloral mixture the following pill:

℞ Pulv. opii, gr. xij;
Ext. cannabis Ind., gr. viij;
Pulv. camphor., gr. xxiv.
M. Ft. mas. et in pil. no. xii. div.

S.—One pill every hour until pain is relieved.

To procure relief until pills were obtained, I injected, hypodermically, ⅓ gr. morph. sulph.

17th.—A better night, after taking five pills. Urine drawn by catheter (I may say that I had instructed the nurse in the use of the catheter, that it might be used at night). Pulse 125; skin moist; pain not so bad, but still very sensitive; cannot bear light. Continued pills *pro re nata*.

18th.—Improving. Pain in head and back not nearly so great; pulse 120 and more full. Ordered dose of castor oil, to be followed, if necessary, by an injection.

19th.—Still improving. Only two pills used in last twenty-four hours. Still have to use catheter. Pulse 110.

20th.—Can move head without much pain. Feels much better. Pulse 100; temperature nearly normal; urine passed naturally; more tolerance of light; appetite improved; no uterine tenderness; lochia natural.

23d.—Have continued to hear from patient each day. She is convalescing nicely. Slept last night without any opiate.

The child is thriving nicely, contrary to expectation.

CHILDBIRTH AFTER OVARIOTOMY.

BY JOHN F. WALKER, M.D.

ON the 29th of June, 1875, the late Dr. Washington L. Atlee, assisted by his son, Dr. Atlee, removed a multilocular ovarian tumor from Mrs. J. C., of this city.

Although the patient at the time seemed very much reduced, and the weather was extremely warm, she made a rapid and excellent recovery, being able to sit up in a rocking-chair for several hours on the ninth day.

On the 21st of June, 1877, after a difficult and tedious labor (occipito-posterior presentation), I delivered her with the forceps of a fine, large boy, weighing eleven pounds avoirdupois. Subsequently, on the 4th of October, 1879, I again delivered her of a daughter weighing between eleven and twelve pounds.

This case was one of breech presentation, the labor not being more than ordinarily difficult for so large a child.

Although pregnancy and delivery at full term under these circumstances are not of unusual occurrence, yet, as Dr. J. Ewing Mears remarks (*Medical Times*, August 16, 1879), the cases are sufficiently important to be placed on record.

201 COLUMBIA AVE., PHILADELPHIA.

THE EXISTENCE OF SUPERNUMERARY FINGERS RUNNING THROUGH THREE GENERATIONS.

BY HARRY A. TOMLINSON, M.D.

MRS. P., a colored woman, is the mother of four children, two boys and two girls, each of whom had, when born, a supernumerary finger attached to the first phalanx of each little finger.

In the first and the third child the extra fingers were fully developed, and in all respects like their fellows, save in their attachment, which was by a pedicle, to the metacarpal head of the first phalanx.

The second and the fourth child had the fingers attached at about the middle of the first phalanx, and they were more rudimentary in the degree of their development.

In the child I saw, and from whom I removed the fingers, the rudimentary finger was supplied with a branch from the digital artery, the division of which gave rise to considerable hemorrhage. The mother also had the two extra fingers, and her father had six fingers and six toes.

This multiplicity of fingers did not extend any farther back than to the grandfather of the present generation, nor did the brothers and sisters of the mother of these children have the deformity.

TRANSLATIONS.

BAMBERGER ON BRIGHT'S DISEASE AND ITS RELATIONS WITH OTHER AFFECTIONS.—The *Centralblatt für Chirurgie* (No. 47, 1879) contains an abstract of a clinical lecture by Bamberger (one of Volkmann's well-known series), in which an analysis of two thousand four hundred and thirty autopsies of Bright's disease is made. The cases are divided into two categories. The first, comprising one-third of the cases, includes those where the kidney affection occurred alone. The second, comprising two-thirds of the cases, embraces those where the renal trouble was connected with some other disease. No anatomical distinction could be made between the two series of cases, excepting that amyloid degeneration seemed more usual in the secondary form. On the other hand, the clinical difference was well marked; the secondary Bright's disease often remaining entirely latent and without those characteristic symptoms which are hardly ever absent from primary Bright's disease. A decided difference appeared also in the reflex effect upon the heart. In the primary form enlargement of the heart occurred in 42.6 per cent. of the cases, while in the secondary form this was found in only 3.3 per cent. The following table shows the various concomitant affections and the comparative frequency with which they are respectively connected with Bright's disease:

Tuberculosis, phthisis, scrofula, 15.7 per cent.

Valvular deficiencies in the heart, 9.1 per cent.

Pregnancy, puerperal processes, 6.5 per cent.

Diseases of the urinary passages, 5.5 per cent.

Suppurative processes, 5.2 per cent.

Alcoholism, cirrhosis of the liver, 4.8 per cent.

Carcinoma, 4.2 per cent.

Pulmonary emphysema, 3.5 per cent.

Typhus (typhoid?—ED.), 2.4 per cent.

Syphilis, 2 per cent.

Scarlatina, intermittent fever, 1.2 per cent.

These primary affections may be divided into three classes: 1. Those in which the Bright's disease is brought about by toxic or infectious bodies, most frequently by the absorption of disintegrated organic matters, together with the lower organisms connected with this process. To this category also belong scrofula, tuberculosis, and phthisis, caries and necrosis of the bones, suppuration, syphilis, acute infectious diseases, etc. 2. Those where the trouble is brought about by venous stagnation, or by diseases of the circulatory and respiratory apparatus. 3. Those where the cause is to be found in retention of the secretion by narrowing of the urinary passages.

For the primary form of Bright's disease the etiology may not infrequently be traced to "catching cold," although the cause is often obscure. Women are more likely to be attacked than men.

Hemorrhage into the brain is one of the commonest sequelæ of Bright's disease, occurring in ten per cent. of the cases. Croupous pneumonia is another; pleuritis, pericarditis, dysentery, with extensive intestinal catarrh, are also common. The relative frequency of hypertrophy of the heart differs in the various stages as follows: in the acute stages it occurs in 22.4 per cent.; in the chronic, in 34.2 per cent.; in the atrophic, in 54 per cent.

The cause of the more common occurrence of cardiac hypertrophy in connection with small granular kidney than with the large (parenchymatous) variety lies in the more prolonged course of the former rather than in any pathological peculiarity.

The cardiac hypertrophy is in most cases connected with dilatation. It occurs either on both sides or on the left alone. After a close examination of the various theories which have been brought forward to explain the connection between the cardiac and the renal affections, Dr. Bamberger states his own view, to the effect that the hypertrophy of the heart is not dependent upon the concomitant arterial disease (thickening of the vascular walls), nor upon disease of the muscular structure of the heart itself, since this is rarely or never observed. He holds to the theory that diminished excretion of water throws a greater amount of work upon the heart, and thus gives rise to its hypertrophy. It is true that in contracted kidney the amount of water passed is increased rather than diminished, but it may be supposed

that in these cases a stage of diminished excretion of water has preceded, and has given rise to the cardiac hypertrophy.

INJECTIONS OF CHLORIDE OF ZINC IN NASO-PHARYNGEAL POLYPI.—At a recent meeting of the Société de Chirurgie, a communication was read from M. Barthelmy, of Toulon, relative to the case of a child of 14 who suffered from excessive epistaxis, which was found on examination to proceed from a large polypus depressing the velum palati and partly obliterating the nasal fossæ. Two attempts were made to remove the tumor by twisting off with forceps, but in vain. Surgical interference being declined, M. Barthelmy incised the velum and injected chloride of zinc through the opening into the parenchyma of the tumor. Nine times in the course of about two months he injected five drops of the (saturated solution of?) chloride of zinc, which caused entire destruction of the tumors. At the end of six months, however, there were signs of recurrence.

In the course of the discussion which followed, M. Anger recalled that Nélaton had, fourteen years ago, suggested the employment of caustics, and had urged him to make experiments in this direction. He had arrived at the conclusion that perchloride of iron was the best agent. It removes the tumor, leaving behind a small, hard scar, preferable to the soft scar left by chloride of zinc. In two cases the success of treatment was quite satisfactory.—*Le Progrès Méd.*, 1879, No. 49.

HISTOLOGY OF PSORIASIS VULGARIS.—Neumann (*Cbl. f. Med.*; from *Wiener Med. Jahrb.*, 1879, s. 67) finds prickles preponderating on those cells which are situated between, and immediately above, the papillæ; the latter show a more vertical or oblique arrangement. The cells situated over the papillary stratum are distinguishable by their more granular contents, and the cylindrical cells, which in the normal condition cover the papillary projections only in a single layer, are found in two to four layers one over the other. The complex of newly-formed cells between the papillæ form frame-works, which, when their number is more greatly increased, bind the papillæ to the rete. The papillæ are usually elongated twelve- to fifteen-fold (!—ED.), filled with a wide-meshed net-work containing round cells, and variously changed in shape from the growth of the cells of the rete. The cutis, of which the meshes become wider and the connective-tissue bundles broader, is, chiefly in its upper layers, particularly along the vessels, filled with aggregations of round cells. The swollen blood-vessels are here and there narrowed in their lumina by endothelial growth. The lymphatics are enlarged, the smooth muscles hypertrophied. The cellular contents of the sweat-glands and hair-follicles are increased, the mouths filled with horny cells, the opening of the sweat-ducts widened, and the glandular coil surrounded by round cells.

LIGATION OF THE TWO LINGUAL ARTERIES FOR TUMOR OF THE TONGUE.—M. Després (*Soc. de Chirurgie; Bull. Gén. de Thérap.*, vol. ii., 1879, p. 472) describes the case of a girl of 12 who presented on the point of her tongue an erectile patch which had existed from birth. At the time of examination this patch had grown to be a small tumor, which was situated to the left of the tongue, in the sub-hyoid region. It presented a slight thrill, and was evidently an arterio-venous aneurism. Compression of the left external carotid caused the thrill to cease, as also occurred when the lingual was compressed near its origin. In operating, M. Després did not cut into the hypoglossal muscle perpendicularly as is usually done, a procedure always giving rise to hemorrhage, but he caused the head to be pressed back so as to bring the lingual prominently out, compressed the lingual vein between two ligatures, and, separating the fibres of the hyo-glossus, the vein, being tied, was cut, and the artery gotten at and ligated without much loss of blood. This procedure was followed on both sides, and resulted in what was at first supposed to be a cure. Some forty days after the operation, however, a slight thrill could be felt under the chin: so that it could, strictly speaking, only be regarded as palliative.

ULCERATIVE LYMPHANGIOMA OF THE FOOT.—A. Bryk observed a case of this affection in a laboring-man 26 years of age. Elephantiasis had developed during fifteen years in a typical manner. The right external iliac artery was tied, but the process went on to ulceration in the foot, metastatic lymphangioma of the skin of the thigh, of the upper extremities, and of the mucous membrane of the hard palate ensued, and the patient died of exhaustion. Full notes of the case are given in the *Archiv für Klinische Chirurgie*, 1879, Bd. xxiv. Heft 2.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JANUARY 31, 1880.

EDITORIAL.

ON THE REPORTING OF CASES.

THE number of medical periodicals in the world is certainly a very large one, and the surface covered in these journals with the descriptions of individual cases must annually amount to acres. Very few persons, according to our thinking, appreciate the number of the units which make up the world's clinical records. Hydrophobia is a rare disease, and yet we have been credibly informed that there are something like one thousand cases recorded. Every young hospital physician nowadays must score his dozen of aortic aneurisms before he appreciates that an ordinary report of such a case is about as valuable an addition to medical literature as a new grain of sand would be to the beach of Atlantic City.

It would seem that case-reporting was a busy idleness; but it is the abuse and not the restrained use of the recording faculty that constitutes the modern nuisance,—a nuisance whose growth, it must be acknowledged, is marvellously increased by the rapid multiplication of journals. The journal must be published; its pages must be filled; and but too often this is accomplished only by a foraging on the part of the editor worthy, in its thoroughness and skill, of one of Sherman's Bummers.

Before reporting a case, the tyro should always be sure that it is worth reporting. The value must not, however, necessarily be a permanent one. Journals are largely for the present, and there are times when a common disorder is well worthy of notice. The first case at the outbreak of an epidemic may often be of inestimable value even in detail, and may even become historic. Fresh narrations of rare cases, or of complicated cases in which an autopsy has solved the enigma, may be of great value as a means of refreshing the memory of the passing reader, or of adding to his experience. In law, a judicial decision in a novel case is of permanent value; and when the diagnosis has been during life uncertain, the revelations of the post-mortem bear some of the authority of the judge's dictum.

Before reporting a case, however, the physician should have some very clear reason for putting it on record, not yielding to the temptations of a facile pen, or of the pittance paid by medical journals, or to the fact that by reason of his own ignorance or lack of experience the case seems novel to himself.

If careful consideration should be given to deciding the propriety of making any report of a case, no less consideration should be bestowed upon the method of this report. In most cases, if the descriptive powers of the writer are at all good, a graphic description of the general course of the disease is much better than the plastering down of extracts from the bedside note-book. In taking notes on an obscure case it is often proper to put down all the details, because it may be impossible to judge what are the essentials; but when the record is complete the important symptoms ought to be clearly perceived, and as clearly stated in the finished report. Time is so valuable that all unimportant details must be suppressed. Even in the first note-taking it is perfectly possible to become lost in a bewildering maze of trifling symptoms. Some time since, a young assistant, desiring to be very painstaking, brought as the result of one night's watching of a very serious case nearly a quire of closely-written foolscap, of which the following is a sample:

"1.15 A.M. The patient is seen to slowly rise from his bed and seat himself upon the chamber, where he remains with much

straining and looks of anguish for some minutes. 1.30 A.M. He has returned to bed. 1.35 A.M. Examined the pot. Nothing in it."

To which a note might be well appended, "Examined the assistant's head. Nothing in it."

In reporting the progress of a case from day to day it is far better to say, "From June 1 to June 6 temperature kept high, varying from 104° morning to 105° evening," than to give elaborate tables of temperature. So should it be throughout,—a charcoal sketch of the outlines of the attack, with the important points in bold strokes, and the details more or less common to all cases of sickness omitted.

DR. BLACKBURN, Governor of Kentucky, deserves great praise for the very ingenious and effective method he has adopted for bringing the good people of his State to an appreciation of the fact that criminals are human beings. The condition of the prisons over which the doctor has official jurisdiction seems to be almost beyond belief. Without occupying much space, it is sufficient to quote one paragraph from the governor's message:

"This terrible state of affairs required as a necessity that three hundred and seventy-eight of these wretched men should be thrust and immured two in a cell, although these cells were but three feet nine and a half inches wide, six feet three and a half inches high, and six feet eight inches long. These small, dark, ill-ventilated cells did not even contain sufficient air to support one man, and the death-record gives us abundant proof of this fact. From the 1st of January last up to the present time there have died seventy-four. This is a fearful mortality."

The remedy, which the governor is industriously applying, is wholesale pardoning; and, as it is much easier to pardon than to convict, the Legislature will assuredly be forced to make proper provision for the criminals, provided Dr. Blackburn does not weary in well-doing.

THE cold in Italy during the present winter has been very severe. A sentry at Florence and a cabman at Genoa have been frozen to death.

LEADING ARTICLES.

FOOT-BINDING IN CHINA.

A VERY interesting paper upon this subject, read by Dr. Robert P. Harris at a recent meeting of the College of Physicians of this city, affords an opportunity of drawing attention to the peculiar deformity of the feet brought about by the process of foot-binding practised in China, and the manner in which the tender structures of the infantine foot are carefully mis-trained and distorted into grotesque uselessness.

It appears, according to Dr. Harris's statement, that, among the wealthy and those who can afford to have it done, the first binding takes place at the age of from five to seven. Earlier than this it cannot be done, contrary to the statements of some travellers, because the child must first learn to walk and do certain acts or kinds of work in which walking is essential, or it will not be able to learn. Circumstances sometimes cause the postponement of the dwarfing process until the age of twelve, fourteen, or even twenty; but the suffering then caused is extreme, and the result less satisfactory.

The first step in the process is the bending of the four smaller toes under the sole of the foot, and the narrowing of the parts supported by the metatarsal bones. The second step consists in a forcing together of the plantar portions of these bones, whereby they are subjected to a continuous pressure, and in an opening, or an attempt at opening, of the articular crevices of the instep, keeping their ligaments constantly tense at the same time. The third step is the last to be accomplished, and can be completed only in the young subject. The os calcis, with the astragalus, is forced downward until the heel is vertical, and its bone on a line with the bones of the leg. The calcis is rounded in form, losing its processes, which are so marked in the normal bone; and its anterior articulating face is brought up near to the high, instep-like arch just in front of the ankle-joint, while at the same time the point of attachment of the tendo Achillis is made the base upon which the girl stands when erect and steps in walking.

The operation is begun by placing the end of a long, narrow bandage on the inside of the instep, carrying it around over the four smaller toes and taking them under

the foot. After several turns with this object, the bandage is turned so as to compress the foot longitudinally. The bandaging completed, the child is left to endure the torture for a month. At the end of this time the foot is opened, when the skin is often found ulcerated, or gangrenous from pressure, and one or more toes are not infrequently lost.

The shaping of the foot by the bandage requires from two to three years, during which period there is more or less pain. This is most severe in the first year, and gradually diminishes after the bending of all the joints and articulations is completed. During this period, and in fact throughout life, the feet are unbound but once a month.

The suffering at first is very severe, and is located chiefly in the toes, joints, anklebones, and instep: it is compared by those who have endured it to that produced by the thrusting of sharp needles into the flesh. At night the girl lies across her bed, putting her legs over the edge of the bedstead, so as to make a pressure under the knees, and thus benumb the parts below them. In this position on her back, swinging her legs backward and forward, she passes many a weary night. Febrile disturbance is said to be an accompaniment of this torturing process.

If the feet are firmly bound, and the girl young, they will cease to ache generally in about two years, the parts being then denominated "*dead.*" By this time the calf of the leg, for want of use, has disappeared, the skin is shrivelled, and the whole extremity below the knee presents an atrophied and shrunken appearance, being little more than skin and bone. The bones eventually become attenuated, and the ankle measurement of a dwarf-footed woman is about the same as that of her wrist. In adult life the leg frequently becomes rounded and enlarged by adipose deposit, and the muscles regain their form in a measure; but the ankle always remains small.

The binding process is said to exercise a markedly depressing influence upon the emotional character of its subjects, which lasts throughout life and is very characteristic. Dr. Harris calls attention to a practical point in orthopædics in connection with this procedure of foot-binding. He suggests that in splay-foot and similar deformities, the converse of the Chinese deformity, a similar sort of binding, thoroughly carried out, would prove highly advantageous.

PROCEEDINGS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, DECEMBER 11, 1879.

THE PRESIDENT, DR. S. W. GROSS, in the chair.

Adenoma of the breast. Presented by Dr. MORRIS LONGSTRETH.

THE specimen was obtained from a patient in the Pennsylvania Hospital, named Ann Williams, colored, æt. 53, widow, washerwoman, who was admitted October 7, 1879, under the care of Dr. R. J. Levis. Her family and personal history was good. She had been treated in the hospital previously for rheumatism. Eighteen years ago, while washing, she ran a needle into the right breast at the nipple; it caused but little pain, and she had forgotten it until, two months after, she noticed a slight discharge, which was bloody, from the nipple. Two or three months later a hard lump was found in the breast, on examination. The discharge ceased after a time, but the breast steadily and very slowly increased in size. Eight years ago (ten years subsequent to the injury) a sore broke out below the nipple, which has never healed; a year ago another sore formed to the outer side of the areola, and there has been a continual slight discharge from both openings. There have been darting and burning pains in the breast for years, and for the last few years the pain has been constant. The patient was married twenty-five years ago; has had three children (one of whom died of croup, the other two were still-born), all prior to the breast-trouble.

On admission she was seen to be stout and healthy-looking, and felt well, with the exception of the pain, which prevented sound sleep. She wished for an operation on account of the pain in the breast. There was found a tumor in the right breast, which was very large, prominent, and irregularly conical in shape. There were seen the two openings which the patient had described,—the one below, the other a short distance to the outer side of, the nipple. The breast was removed (Dr. Levis operated) by two incisions, making an elliptical figure over the tumor from right to left and slightly downwards, about six inches in length and two inches at the widest part. The mass was about the size of two fists. The axillary glands were not enlarged.

Description of the tumor after its removal.—The mass presented a very prominent, somewhat conical shape, covered by an elliptic-shaped flap of black skin, in the middle portion of which were the nipple and the two

ulcerations. The nipple was very slightly projecting, having a soft, delicate feeling to the touch. The openings were of small size, scarcely admitting the tip of the little finger; they were seated at the bottom of slight depressions in the surface of the breast, and were surrounded by areas of whitish, cicatricial tissue, contrasting markedly, both in color and consistence, with the adjacent normal black-pigmented skin; their edges were smooth and tended to inversion, and show no appearance of fungous granulations. A probe passed into these openings entered a narrow sinus leading a short distance into the substance of the tumor; a slight amount of pressure brought up a little thick matter, of a pinkish color, similar in character to that discharged previous to the operation.

A large portion (probably a fourth) of the mass removed was composed of normal adipose tissue, situated largely in the direction of the axilla. The tumor itself was a rounded mass, somewhat flattened; a considerable amount of fat was laid over and pretty firmly adherent to the firm, tense, shining, fibrous capsule enveloping the new growth. The tumor was lobulated, with the lobules well compacted. An incision, made from the posterior surface and carried to the region of the nipple, showed the large masses to be composed of a homogeneous, pinkish-white tissue, subdivided into smaller nodules by bands of connective tissue of a varying width. The surface of the section was finely granular, and there were seen numerous small cysts seated in the interior of the nodules, more numerous towards the nipple portion of the growth; these cysts contained a thin, blood-stained fluid, varying, however, in its depth of color. At the lower border of the tumor, in the neighborhood of the opening, on the skin below the nipple, were several large-pea-sized cysts filled with blood, and having thick, fibrous walls.

The tumor, after the fat was removed, measured five inches in length, two inches in breadth, and three inches in thickness.

Two cases of true adenoma of the mamma, with brief remarks upon the histology and general pathology of that affection. Presented by Dr. SAMUEL W. GROSS.

The specimen which has just been exhibited by Dr. Longstreth is very similar in its main features to one which he presented to the Society last spring. In both the tumor developed after the thirtieth year; in both it ulcerated and discharged a sanious fluid; and both had existed for eighteen years before their removal. In addition to other points of likeness in their gross appearances, they were pervaded by cysts, and were found, under the microscope, to be made up of cystic acini and ducts lined with columnar epithelium. From the predominance of ducts, they are both to be classed as tubular adenoma, which represents a common variety of this type of new growth.

Since the appearance of a paper from my pen on "True Adenoma of the Mamma," in the *American Journal of the Medical Sciences* for October, 1879, I have had an opportunity of examining microscopical sections of two additional examples. As adenoma is, next to myxoma, the most uncommon of all the neoplasms of the breast, I avail myself of this opportunity to show you the slides, with their histories, and present you with a summary of what I have deduced from the study of seventeen cases of this little-understood affection.

Case I.—A mulatto girl, æt. 16 years and 7 months, single, and the subject of regular but painful menstruation, noticed a tumor in the upper portion of the mamma, which caused her no inconvenience, but led her to seek its enucleation because "she did not like to have a lump in her breast." On its removal, three months subsequent to its appearance, by Dr. Armistead Peter, of Georgetown, D.C., it was found to be oval, nodulated, and to measure one inch and three-quarters in length by one inch and a quarter in breadth. At the expiration of twenty-eight months there was no recurrence.

Examination of a mounted section of the growth, which is numbered 6755, Surgical Section of the Army Medical Museum, shows, in addition to a few ducts, with appended acini, which are characteristic of the normal physiological condition of the breast at the age at which the tumor appeared, an immense number of closely-aggregated longitudinal and transverse sections of ducts, lined with spheroidal and cuboid epithelium, and provided with a central lumen. They are contained in a delicate, young connective tissue, and are, doubtless, offshoots from dilated acini.

Case II.—A married lady, barren, but menstruating regularly, discovered, at the age of 43 years, a small nodule in the upper and inner portion of the breast. It continued to grow, with periods of dull and sometimes lancinating pain, for three years, when her attendant punctured a prominent elastic nodule, which bled freely, and the slight wound took on ulcerative action. At the date of its removal, six years after its appearance, by Dr. John Sloan, of New Albany, Indiana, to whom I am indebted for the history and the microscopical section, the larger portion of the mamma was converted into an irregular, lobulated, and firm tumor, the upper surface of which was converted into an excavated ulcer, which discharged a sanious fluid, and measured two inches in diameter. The nipple and axillary glands were normal. At the end of two years there was no tendency to recurrence.

The section discloses that the growth was composed, first, of enormously-dilated acini, lined by hypertrophied, cylindrical epithe-

lium, a few of which contained vegetations composed of delicate connective tissue clad with epithelium of the same character, and, secondly, of ducts, many of which were beaded and cystic, and which were likewise lined by columnar epithelium. The latter preponderated to such an extent that the growth may be denominated a cystic tubular adenoma. The interglandular connective tissue was very delicate and sparse, and, here and there, the seat of an extensive small-celled infiltrate.

The term adenoma is applied by certain pathologists, as Cornil and Ranvier, Waldeyer, Luecke, Foerster, and Wilks and Moxen, to neoplasms in which there seems to be a simple exaggeration of the normal physiological structure of the breast, as the acini, along with their epithelium, preserve their normal form and size and arrangement, and are provided with a central lumen, the only difference being that the connective tissue is sparse in the morbid formation. Of the five specimens that I have examined, the only one which approaches this description is the one removed by Dr. Peter, but the likeness to the normal structure is far from striking, the efforts of nature having been limited to the excessive production of glandular apparatus, without attempting to unite the acini into distinct lobules attached to excretory ducts.

The remaining sixteen examples that I have collated, and five were brought to the notice of this Society by Dr. Longstreth, Dr. Nancrede, and myself, all showed either marked enlargement of the acini or offshoots from the dilated and cystic acini, in the form of tubes or ducts, with aberrations in the characters of their investing epithelium. Thus, in ten instances the tumor was composed of excessively-dilated acini packed with polymorphous cells, which could be expressed from the cut surfaces of the growths as atheromatous moulds or plugs. It is to this form of adenoma that Labbé and Coyne, Malassez and Deffaux, and Duplay have incorrectly applied the term epithelioma. In the other six specimens the ducts predominated, and these arose, as I have demonstrated in the paper referred to, with the aid of a beautiful drawing by Dr. Shakespeare, from the dilated acini by a process of budding and extension into the scant connective tissue of the gland. In these cystic tubular adenomas the epithelium, instead of being polyhedral, assumes a cylindrical or columnar form, as is so well shown in the specimens of Dr. Levis and Dr. Sloan presented this evening. Hence it appears that true adenoma consists not only in a disorderly hyperplasia of the lacteal glands, but also in deviations in the form, size, and arrangement of the epithelium, on which account it is atypical in the strict sense of that term. The exception to this rule may be found in such specimens as that of Dr. Peter, which constitutes the only one of the seventeen cases that I have analyzed in which there was any approach to the normal physiological standard.

Adenomas always occur singly: they develop as early as the sixteenth and as late as the fifty-ninth year, or at the thirty-fifth year on an average. The greatest number of cases are met with in prolific married women who menstruate regularly during the functional decline of the mamma. They usually arise without assignable cause, and the general condition of the patients is excellent. They increase slowly, as a rule, and always by the apposition of new nodules to the original tubers. In exceptional instances they attain the volume of a double fist or a fœtal head. In only 6.66 per cent. of all cases are the subcutaneous veins enlarged; the skin is discolored in 26.66 per cent. and adherent in 40 per cent.; the nipple is sunken, not retracted, in 13.33 per cent., and discharges a bloody or lactescent fluid previous to the detection of the tumor in 26.66 per cent.; ulceration occurs late in the disease in 40 per cent., and in nearly one-half of these there is fungous protrusion, without adhesion to the margins of the opening; and the lymphatic glands are the seat of irritative enlargement in 13.33 per cent. There is no pain whatever in two-thirds of the cases.

From these facts it follows that adenoma is characterized by its firm consistence, nodular outline, slow and equable growth; its occurrence in child-bearing females towards the thirty-fifth year; the limited discoloration and adhesion of the skin and ulceration late in the disease, and freedom from retraction of the nipple, prominence of the subcutaneous veins, attachment to the chest, and involvement of the axillary lymphatic glands. If the tumor has been preceded by a discharge by the nipple, the probabilities in favor of its being an adenoma are greatly increased.

With regard to the prognosis after operation, I will merely add that three patients remained well respectively for six, twenty-four, and twenty-eight months. One was alive at the end of two years, but with suspicious indurations near the cicatrice; one was well thirty-one months after the removal of a recurrent growth; while in one there was local recurrence and enlargement of the axillary glands in less than one year, and death ensued two years later, but there was no post-mortem inspection of the body. In the remaining eleven cases the history ceases with the recovery or death of the patient. Hence adenoma evinces a decided tendency to recur, but there is no evidence going to show that it infects distant organs.

Intra-laryngeal growth. Presented by Dr. C. SEILER.

On June 14 I was asked by Dr. Ludlow to see, with him, a case, and make a careful laryngoscopic examination, with a view to

determine, if possible, the cause of a persistent aphonia, from which the patient had been suffering for about eighteen months.

On reaching the house I found the patient to be a gentleman 64 years of age, and elicited from him and from Dr. Ludlow the following history:

Mr. H., the patient, had always enjoyed good health until about eighteen months before, when, after violent exercise in the open air on a cold winter's day, his throat became sore and his voice hoarse. The usual treatment for acute laryngitis relieved him of his symptoms, with the exception of the hoarseness, which, although not as bad, still continued. He felt quite well until August, 1878, when again his throat became sore and his voice left him. He tried various remedies, and especially counter-irritants about the neck and throat, without relief, and his throat gradually became worse. In the latter part of December of the same year, a swelling of the neck began to show itself, together with shooting pains in the left ear.

Becoming alarmed, Mr. H. consulted Dr. J. S. Cohen, who, on laryngoscopic examination, discovered a small neoplasm overlying the left vocal cord, and advised him to have it removed, but the patient was not then willing to submit to any operation. He afterwards placed himself under the care of Dr. Barton, who made several applications to the larynx by means of a brush, without giving relief. Homœopathic treatment was also resorted to by the patient, at the instance of friends, with no result, and finally he returned to his family physician, Dr. Ludlow. As the swelling on the neck had become very great by this time, counter-irritants and leeches were again resorted to, with transitory relief.

On examination, I found the larynx to be greatly swollen and almost immovable, but not tender on palpation. The patient complained of a sense of fulness about the throat, shooting pain in the left ear, difficulty of deglutition, together with a dry, short cough, especially during his meals, and dyspnœa. A laryngoscopic examination showed the epiglottis to be swollen and red; the aryepiglottic folds were tumefied so that the outlines of the arytenoid cartilages were obliterated, especially so on the left side. A lobated, raspberry-like growth, of the size of a small pea, was lying on the left vocal cord, and apparently springing from the left ventricle, the ventricular band on that side being tumefied. In the anterior angle of the thyroid cartilage there appeared a small, round prominence, of a white color and smooth, glistening surface, which at that time I supposed to be a small fibrous growth of but little significance. The right side of the larynx was apparently but little affected by either the œdematous swelling or the inflammation. A view of the subglottic cavity could not be obtained.

The patient was then willing to have the tumor removed from the larynx, and, the case being handed over to me for laryngeal treatment, I introduced the guillotine and succeeded in removing a small portion of the tumor. This, however, made the throat very sore, so that I desisted from operating for several days, and ordered leeches applied to the neck. One of the leech-bites discharged pus, and proved, on probing, to be the opening to a sinus some one and a half inches in length.

Several pieces of tumor were subsequently removed, and I noticed that the white swelling at the anterior angle of the thyroid increased very rapidly and encroached upon the opening of the glottis to such an extent that it was deemed necessary to perform tracheotomy, which was successfully done on July 7, Drs. Cohen, Ludlow, and Wirgman assisting me. The patient recovered rapidly from this operation, and improved in general health so that he was able to be out. The abscess in the neck over the thyroid continued to discharge and the laryngeal tumor to grow more rapidly than the patient would let me remove it, until the pain about the neck became very great and the shooting pain in the ear intolerable; there was also a very harassing, dry cough, which prevented sleep.

Finally, on August 7, the patient consented to have a free incision made into the abscess, as had been urged by me for some time, and as was advised by Dr. Levis, who had been called in to see the case. The incision which I made discharged but little pus, and, on passing in the finger, it was found that the larynx was open, and a large piece of papillary growth was removed through the opening. This piece was examined microscopically, and found to be a papilloma, the connective tissue of which was infiltrated, resembling very much sarcomatous tissue, so that the growth was considered to be a sarcoma with papillary outgrowths by Drs. Shakespeare and S. W. Gross, who both examined a section of it.

A slight chill followed the operative interference, which, however, was not repeated, and the patient felt greatly relieved of the pain in the neck and ear, but the cough remained unaltered. The external wound was kept open by a large drainage-tube, and daily small pieces of the growth were removed through the opening. A laryngoscopic examination which was made several days after the external operation showed that the larynx was still filled with the whitish mass, and I then conceived the idea that the piece of growth removed had been external to the larynx, and that the swelling of the neck was in a great measure due to parts of the growth having penetrated the tissues around the larynx. Dr. Ludlow, as well as myself, then urged a further splitting of the larynx, in order to remove, if possible, the whole growth, but the patient's family would not consent to any further operation.

The tumor in the larynx continued to grow, and by the middle of October had so encroached upon the epiglottis that deglutition became almost impossible.

The patient then consented to another operation, and on October 24 I performed laryngotomy, Drs. Cohen, Ludlow, Packard, and Wirgman kindly assisting me. The masses of tumor before you were taken, both from within and without the larynx, by means of a spoon and by scraping with the finger-nail, until apparently all traces of growth were removed, and the larynx, as well as the trachea, was found to be clear.

The patient made a rapid recovery from the operation, and in two days was able to swallow solid food; he was able to be out-of-doors two weeks afterwards. A laryngoscopic examination showed the larynx to be perfectly clear of any growth, but there still existed a stenosis of the trachea just above the tracheotomy-tube, so that the operation had not been successful as regards re-establishing the natural respiratory tract. This stenosis I endeavored to remove by dilatation, passing the dilator both through the mouth and larynx, as well as through the external opening, which I kept open for that purpose. The patient's general health improved very much, and, being desirous of being able to pass some air through his larynx, he asked that another operation be made in order to remove the obstruction.

This I did on December 6, Drs. Cohen and Ludlow assisting me, and found that there was a mass of tumor inside as well as outside of the trachea, close down to the opening of the tracheotomy wound, as well as a good deal of cicatricial tissue within the trachea. This latter was broken down, as well as could be done, and the former removed by means of the finger-nail and spoon, until free communication was established between the trachea and the outer opening above.

During this operation, as well as during the former, a novel tracheotomy-tube was employed, at the suggestion of Dr. J. Solis Cohen, in order to prevent any blood from running into the trachea, and also to facilitate the administration of ether during the operation.

The patient made a very rapid recovery from the operation, the febrile symptoms being hardly perceptible, and he was able to be up and about on the next day, but not able to breathe through his mouth, as the wound was still kept closed with cotton with a view to prevent cough from the dropping down into the trachea of pus and blood.

All through the course of the disease the pulse never rose above ninety, except after the second operation, when the patient had the chill, and the temperature also remained normal throughout. There were no glandular enlargements; in fact, no systemic symptoms of malignant growth.

The question of greatest interest in this case is, Where did the tumor originate, in the larynx or outside of it? The appearance of the white swelling at the anterior angle of the thyroid, which was seen in the laryngoscope growing backward and gradually filling up the larynx after the external swelling of the neck had existed for some time, would indicate that the tumor originated outside of the larynx, perhaps in the atrophied thyroid gland, and had pushed its way into the larynx by splitting the thyroid cartilage.

A microscopical examination of sections of the tumor shows it to be composed of pegs of large epithelial cells, many of which are multinucleated, and in the centre of them ducts of glands are seen filled with granular débris. The tissue between the epithelial pegs is composed of young spindle- and round-celled tissue, separating the epithelial elements so that they form finger-like projections.

Dr. GROSS said, in reply to Dr. Seiler's reference to his microscopical examination of the tumor, that the section given to him was one obtained from the first scraping of the larynx, and that it presented the appearance of the histological structure of embryonic tissue. Hence he thought it very probable the true growth had not been examined by him, but only a portion of the surrounding inflamed tissue. This opinion was subsequently confirmed by his examination of a section from a later scraping, which led him to consider the growth to be of an undoubted epitheliomatous nature.

Dr. COHEN said the patient had consulted him in December, 1878, as to the cause of a hoarseness of permanent character, and at that time laryngoscopic examination revealed a small supraglottic growth, apparently papillomatous, projecting from the ventricle of the right side, about the size of an ordinary white bean, and quite accessible to forceps, by means of which he felt certain that it could have been easily removed. He did not again see the patient until requested by Dr. Seiler to assist him in the operation of tracheotomy, some six months subsequently; during the interval he understood that the patient had been subjected to local applications of astringents and caustics by other practitioners, and he considered this poking at the growth an influential factor not only in causing the growth to increase in size, but probably in changing its clinical significance from benign to malignant, and in producing the abscess of the larynx. The rapid increase in the bulk of the intra-laryngeal neoplasm after partial removal, laryngoscopically, subsequent to the operation, had led him to the belief that the neoplasm was a malignant one with papillary outgrowths; but the usual cachectic clinical manifestations of malignancy had not at any period been apparent. Though he had seen epitheliomas as extensive as the growth in question, and even more so, he had never

seen or even read or heard, as far as he could remember at the moment, of a papillomatous formation of this magnitude in the same locality. Dr. Cohen's impression was that the irritation to which the intra-laryngeal growth had been subjected had produced an abscess of the larynx, which had ruptured through the crico-thyroid membrane, which was certainly found open at the second operation to remove the peri-laryngeal growth, and that the peri-laryngeal proliferation had been an extension of the endo-laryngeal growth through the fistula. As the absence of ulceration at any time and of involvement of the skin was unlike the clinical manifestations of undoubted epithelioma of the larynx and thyroid gland, he would ask whether this might not be an example of cylindrical or tubular papilloma or diffused papilloma originating in the ducts of the tubular glands of the laryngeal mucous membrane, and thus presenting the aspects of epithelioma without actual involvement of the deeper submucous structures. The propriety of excising the larynx had been entertained at one time by some of the gentlemen interested in the case, but had been strenuously opposed by himself, with, as he believed, fully as great a prolongation of life as would have been likely to follow the excision. The tube used at Dr. Cohen's suggestion, as mentioned by the reporter, was an ordinary outer tracheotomy-tube of the quadrant form, but with the segment of circle continued so as to present downwards instead of forwards as in the usual form of tube, the flange being exceedingly narrow so as to interfere as little as possible with the manipulations. The great advantage of the tube was that the mucus and other matters which might gain access to the tube, whether from the mouth, the trachea, or the lungs, would be coughed out in a direction protecting the face of operator and assistants from the spattering to which they are not infrequently subjected when the ordinary form of tube is used during manipulations or operation.

Dr. SHAKESPEARE said that since he had unexpectedly heard quoted a so-called opinion of his concerning the nature of the laryngeal growth in question, based upon an examination of the earlier scrapings, he reluctantly arose to take some part in the discussion. He felt impelled to disclaim responsibility for the opinion attributed to him. He had been called upon one morning, during office hours, by his friend the reporter, to look at a section purporting to be made from the scrapings of a growth in the larynx. Patients were in the anteroom awaiting consultation; the reporter himself was also in a hurry, and perhaps five minutes elapsed between the time of his arrival and that of his departure. Within this brief period the history of the case was related, the microscope was brought out and arranged, and the section was looked at. Meanwhile, nothing was said of a request of consulting physicians and surgeons for a careful examination and an opinion, which Dr. Shakespeare several days afterwards accidentally learned had been desired, for the purpose of furnishing information which might influence a decision as to whether the grave operation of extirpation of the larynx would or would not be called for.

It was under these circumstances that a mere *hypothesis* concerning the nature of the growth was arrived at, which the reporter, in his paper written for publication, has dignified with the name of "an opinion." Moreover, this so-called "opinion" had been misquoted, no doubt unintentionally, for, even in this hurriedly-formed hypothesis, the impossibility of absolutely diagnosing a morbid growth by an examination of the tissue torn from its granulating surface was both recognized and distinctly expressed. The section thus glanced at unquestionably presented the appearances of granulation-tissue covered by an epithelial surface, and the conjecture then formed and expressed was that the section might have been from a sarcoma with secondary papillary formations upon the mucous surface, or from a papilloma experiencing inflammation, or from almost any other morbid growth with its surface inflamed and covered by granulation-tissue.

He declined to be placed in the position of practically advocating the antiquated assumption that the nature of a morbid growth can be recognized, with any great degree of satisfaction or certainty, from an examination solely of scrapings from the surface. There is nothing more delusive and misleading than conclusions based upon such examinations, even when time is consumed in a careful study.

Dr. Shakespeare could not but deprecate a practice which makes one, often unwillingly, a party to the diffusion of such so-called "opinions" as are arrived at in the careless manner already mentioned. He thought that the injudicious publication of just this class of opinions did far more than any other one thing could possibly do to bring discredit upon the microscope, and to block the way of progress in the science of pathological histology. It was in the highest degree unfair to the person whose so-called "opinion" is cited; it could not fail to be alike dangerous to the suffering patient, and delusive to the consulting physician; it could give little satisfaction to the earnest inquirer, whose chief object should always be the laudable search for truth; and it could only add to the confusion of him who would undertake the labor of drawing from the abundance of published observations the general laws which govern disease.

Speaking of the nature of the growth under consideration, Dr. Shakespeare said that he believed, as all other modern students of pathology believed, that it was utterly im-

possible to make an absolute diagnosis, by means of the microscope, of the nature of a growth upon a mucous membrane without including in the examination a study of the tissue which forms the base of the neoplasm. He had already spoken of the appearances of the sections from the earlier scrapings. The section placed under the microscope for the examination of the members of the Society, and which he understood to be made from the later scrapings, presented to his eye a perfectly typical picture of epithelioma, with numerous cell-nests or pearly bodies scattered here and there in the abundant epithelial plugs which in the main occupy the field of the microscope. The channels and holes sometimes found in these epithelial pegs, and in many cases filled with granular débris, which Dr. Seiler has singularly described as ducts of glands, he could not recognize as anything else than the cavities which are often found in epithelial accumulations, and which are usually formed by a mucous vacuolation and destruction of a few or a large number of epithelia.

Ulceration and a foul odor in epitheliomatous formations unquestionably are frequent and often early complications. Yet their absence by no means excludes a diagnosis of epithelioma. On the other hand, the presence of epithelial pegs containing cell-nests or pearly bodies can no longer be regarded as absolutely characteristic of an epithelioma, for these onion-like collections of squamous epithelia are not unfrequently found in purely irritative superficial accumulations of epithelial cells in the various locations where these cells naturally exist.

This case, therefore, affords one more example of the impossibility of making a reliable microscopic diagnosis of a growth without an examination of the matrix whence it develops.

Report of the Committee on Morbid Growths.—"A microscopical examination of a thin section made from a portion of the growth removed by scraping the larynx by Dr. Seiler, shows it to be composed of solid anastomosing cylinders or peg-like processes of large epithelial cells; the cells forming the margins of these cylinders are arranged in a very regular manner, and present, in those cylinders which have been cut longitudinally, a somewhat columnar or cubical shape, while in the centre of the cylinders the cells have become larger, more flattened, and their protoplasm has increased in amount, while their nucleus is found to be diminished in size. Upon some of the cylinders the cells are seen arranged in a concentric manner, forming the so-called cell-nests or pearly bodies. Separating the peg-like or cylindrical collections of epithelial cells is observed a fibrillar connective tissue, which presents the appearance of this form of tissue in the various stages of irritation or proliferation, from purely embryonic tissue, consisting of small, round, lymphoid cells without any appreciable intercellular substance, to fully-developed fibrous tissue. From such a histological structure and disposition of elements, your committee are of the opinion that the neoplasm is of an epitheliomatous nature, and may be considered a *lobulated pavement-celled epithelioma.* But it is to be remembered, however, that the examination is made from a scraping of the surface of a growth, and all such examinations cannot be considered either satisfactory or definite.

"January 8, 1880."

REVIEWS AND BOOK NOTICES.

A TREATISE ON HYGIENE AND PUBLIC HEALTH. Edited by ALBERT H. BUCK, M.D. New York, William Wood & Co., 1879. Two vols. 8vo. Vol. i., pp. 792; vol. ii., pp. 657.

In the "editor's note" prefixed to this work, we are informed that it is intended to take the place of the volume on hygiene published in the German edition of Ziemssen's Cyclopædia, which is adapted only to Germany. It was believed that a treatise on private and public hygiene, written with special reference to the different climates, conditions of soil, habitations, modes of life, and laws of the United States, would meet with favor, not only among physicians, but also among all educated classes. A systematic treatise on hygiene has long been a desideratum in this country, and we believe that few more useful works have been published during the past year than these volumes which lie before us.

Unfortunately, lack of space prevents our giving that thorough analysis of the book to which inclination, as well as its merit, entitles it. We can but give a sketch of its contents, in the hope of attracting attention to the stores of useful information on all subjects which have been gathered by the staff of writers, most of them specialists in the branches of which they treat, whom Dr. Buck has called to his aid in the production of this treatise.

The introduction has been written by Dr. John S. Billings, U.S.A., whose multiplied labors in sanitary matters, and chiefly of late as a member of the National Board of Health, have caused him to be regarded as one of our very highest authorities on all subjects connected with hygiene and public health. Dr. Billings, after some brief remarks alluding to the general ignorance of public hygiene, and the imperfect character of our registration of vital statistics, gives a general sketch of the present state of knowledge as to the causes of disease, including a general view of the germ theory of disease, which is to be particularly

commended for its clear and succinct presentation of this subject, which is so difficult of comprehension by those who are not specialists. The latter part of Dr. Billings's introduction treats of the jurisprudence of hygiene, in which he gives a short summary of hygienic legislation in this country, municipal, State, and national, terminating by the addition of a bibliography of the subject.

The remainder of the first volume is divided into two parts: 1, "Individual Hygiene," and, 2, "Habitations." Under the first head are included chapters on "Infant Hygiene," by Professor Abraham Jacobi; "Food and Drink," by Professor James Tyson; "On Drinking-Water and Public Water-Supplies," by Professor Wm. Ripley Nichols; "Physical Exercise," by A. Brayton Ball, M.D.; and "The Care of the Person," by Arthur Van Harlingen, M.D. Under the second head are found articles on "Soil and Water," by William H. Ford, A.M., M.D.; "The Atmosphere," by D. F. Lincoln, M.D.; and "General Principles of Hospital Construction," by Francis H. Brown, M.D.

The second volume is likewise divided into two parts: 1, "Occupation;" 2, "Public Health." Under the first part we find articles on "Hygiene of Occupation," by Roger S. Tracy, M.D.; "Hygiene of Camps," by Charles Smart, M.B., U.S.A.; "Hygiene of the Naval and Merchant Marine," by Thomas J. Turner, M.D., U.S.N.; "Hygiene of Coal-Mines," by Mr. Henry C. Sheafer; and "Hygiene of Metal-Mines," by Rossiter W. Raymond, Ph.D. Under the second part are included articles on "Infant Mortality," and on "Vital Statistics," by Thomas B. Curtis, M.D.; on "Adulteration of Food," by Stephen P. Sharples, S.B.; "Public Nuisances," by Roger S. Tracy, M.D.; "Quarantine" (of sea-ports), by S. Oakley Vanderpoel, M.D., LL.D.; "Inland Quarantine," by S. S. Herrick, M.D.; "Smallpox and other Contagious Diseases," by Allan McLane Hamilton, M.D., and Bache McE. Emmett, M.D.; "The Hygiene of Syphilis," by F. R. Sturgis, M.D.; "Disinfectants," by Elwyn Waller, Ph.D.; "Village Sanitary Associations," by Roger S. Tracy, M.D.; and "School Hygiene," by D. F. Lincoln, M.D. The scope of the work can be perceived by this array of subjects, and we may conclude by pronouncing it a work of reference which should be within the reach of every educated physician.

ATLAS OF SKIN DISEASES. By LOUIS A. DUHRING, M.D. Part VI.—SYPHILODERMA (PUSTULOSUM), ERYTHEMA NODOSUM, SEBORRHŒA, ECZEMA (PAPULOSUM). Philadelphia, J. B. Lippincott & Co., 1879.

In the preparation of this fasciculus, Dr. Duhring has had to contend with unusual difficulties, some of the diseases here represented being among the hardest of all eruptions to delineate faithfully. To say that the obstacles to success have been overcome, and that we have here a series of pictures which challenge comparison with the choicest productions of foreign chromo-lithography, is no more than is merited. Those who have followed the author in his painstaking, laborious, and often disheartening efforts to produce American chromo-lithographs fully equal to those of Europe, find his success peculiarly gratifying, and as each new fasciculus makes its appearance it becomes more evident that this work is to be a monument of which American medicine may be proud.

The picture of *syphiloderma* (pustulosum) is that of a typical case. The arrangement of the lesions, their number, their perfect development, and their form and appearance permit all the characteristic features of the disease to be singled out, and afford, in connection with the text, a good opportunity of studying it in its normal configuration and aspect.

In the representation of *erythema nodosum*, on the other hand, not only are the normal lesions in all their completeness of outline, arrangement, and locality given, but we find some of those less usual and ill-developed patches, which sometimes prove a source of diagnostic embarrassment when occurring alone. This picture commends itself to the artistic sense as well as to the medical. For the colors are so justly modulated as to produce a peculiarly agreeable pictorial effect, as well as to please the critical taste by their close approach to nature.

The plate of *seborrhœa* represents this affection as occurring both on the scalp and on the face, and is an excellent picture of a well-marked example of this affection as it appears untouched by local applications.

In *eczema* (papulosum) the artist has found perhaps the most difficult task which has presented itself thus far in the course of this work. We were inclined at first to criticise some of the lesions as represented, but on comparing the American pictures with those of foreign atlases, it was "Hyperion to a Satyr," and we are well content with the achievement of our compatriot.

THE HEALTHY INFANT. A TREATISE ON THE HEALTHY PROCREATION OF THE HUMAN RACE, ETC. By TANDY L. DIX, M.D. Cincinnati, Peter G. Thompson, 1880.

The "Healthy Infant" is the title of another little claimant for literary favor. It contains much not very original quasi-scientific speculation and some good hints on infant management. The concluding chapters are quite graphic,—the author growing eloquent as he tells what preparations should be made on the advent of sickness, and what may result from their neglect. The room should be cleared of superfluous furniture, so that the attendants may not tumble over chairs and tables on their way down-stairs for mustard

and a plate and knife. We have never seen people tumble over chairs under such circumstances, but it is probably a way they have in Ohio. The mother is told to be careful not to state her view of the case to the doctor, because "it is necessary for the physician to arrive at his diagnosis through a process of induction, that he may not only know what the disease is, but also its nature and extent, and he must arrive at a knowledge of these conditions through an analysis of the history of the symptoms and indications of all the circumstances which surround his patient;" but it must seem rather slow work to the mother when she is burning to explain that her darling is choking over a penny or has seated himself on a pin.

"The approach of the physician should be easy and gentle." No stage strut or military march here, but a sort of sinuous and gliding motion is probably intended,—an imperceptible skimming over the carpet, if they have left that down. He is then, on beholding the sleeping infant, to gaze fixedly at the fontanel. Directions are to be given minutely. "Give one of the powders every three hours, . . . and a teaspoonful of the contents of the vial every time the clock strikes;" but their clock may have no striker, or they may go by their grandfather's clock. "Do not disturb him [the doctor] with questions or conversing in the room: such indiscretions have been the cause of death of many infants;" yet a cause that the mortality returns never disclose.

The advice to clean inflamed eyes in the young infant with milk from the mother's breast is antiquated and uncleanly. The treatment of obstructed respiration from coryza is, to remove the mucus from the nostrils with the head of a pin and oil the nasal passages. Where swelling of the membranes causes closure, the author blows through a quill into the nostrils subcarbonate of bismuth and powdered gum arabic; he has never found this remedy fail; but he would undoubtedly find glycerin, if brushed in the nostrils, succeed much better. The minute study of infantile colic, which concludes the book, we commend to the reader. E. W. W.

THE RIVIERA. SKETCHES OF THE HEALTH-RESORTS OF THE NORTH MEDITERRANEAN COAST OF FRANCE AND ITALY, FROM HYÈRES TO SPEZIA; WITH CHAPTERS ON THE GENERAL METEOROLOGY OF THE DISTRICT, ITS MEDICAL ASPECT AND VALUE, ETC. By EDWARD I. SPARKS, M.A., B.M. Oxon., Fellow of the Royal College of Physicians, etc. London, J. & A. Churchill, 1879, pp. 403.

This is a compact, handy, bright little book, that will be read with no small interest alike by the doctor, who wants some exact idea of a region that many of the sick he must send away will select for themselves, and by his patients, who, on starting, seek beforehand some definite notion of the places whose names have been as familiar already as household words.

The author has had the ill fortune to look upon the health-resorts of the Riviera from the stand-point of the invalid as well as that of the doctor, and to this double view, which, like the stereoscope, gives to the single picture made up of two superimposed impressions an unusual depth and fulness, much of the life-like charm of the volume is due.

Limited space forbids the quotation of any among the many practical suggestions and opinions with which a long experience and close observation have enabled the writer to enrich his pages. The whole book is worth most careful reading.

The descriptions of the various places are very graphic and accurate, and the details of expense, choice of location, mode of reaching the stations, and the like, coincide with the recent personal experience of the writer of this notice. J. C. W.

GLEANINGS FROM EXCHANGES.

SIR HENRY THOMPSON ON THE NIETZE-LEITNER ENDOSCOPE.—In a lecture, published in the *Lancet* for December 6, 1879, Sir Henry Thompson spoke of the endoscope as heretofore employed, characterizing it as not capable of rendering much practical service. Resently, however, he had seen, with Professor Dittel, in Vienna, a new apparatus. Of this he says,—

"It is certainly a daring achievement to carry a platinum wire, heated to whiteness, into the bladder, and to use it there for some minutes in the act of research; and it is a marvellous success as regards the mechanical arrangement by which this result is effected with safety. The idea originated with Dr. Nietze, now of Vienna, but its realization is due to the patience and perseverance of Leitner, the surgical instrument maker of that city. I will briefly describe it, and then say, as fairly as I can, what it appears to be able to accomplish.

"The apparatus consists of a stout wooden table, containing instruments, etc. Attached to it is a light stage, several feet high, supporting a vessel of water; and on a frame near the floor is the electrical battery with its appliances. This apparatus is placed by the side of the patient, who should be recumbent on an ordinary operating-table, so as to occupy a height convenient for the purpose of examination. It may be thus used in an ordinary ward, but it is more efficient in a darkened room, like that ordinarily employed for the ophthalmoscope.

"The electrical current is produced by two rather large Bunsen cells, and the positive and negative conductors, two long and slender wires, are attached to a hollow silver sound of the ordinary form for examining

the bladder, by means of a movable collar round its handle, one of the wires entering a small channel in the sound itself, which it traverses to the end. Arriving there, it enters a cavity within the beak, and joins a platinum wire there about half an inch in length, the other end of which is soldered to the metal of the sound, and the latter itself forms the connection with the opposite wire or pole. The platinum, which becomes incandescent on the completion of the current, is covered by a glass plate isolating it from lateral contact. Finally, the end of the sound which contains the platinum wire has to be kept perfectly cool by special means adapted to the purpose.

"The means by which this is accomplished consists in the maintenance of a constant current of cold water supplied from a reservoir, containing about two or three gallons, placed seven or eight feet above the operator. The current descends through a small, flexible tube to the collar of the instrument already described, and connected there with two capillary channels in the body of the sound itself. These measure only one millimetre and a half in diameter, and pass through the whole length of the sound, coursing round the heated wire at its termination, so that the water is constantly flowing in by one tube and out by the other, to issue finally, drop by drop, through the returning tube into a vessel placed to receive it. The collar of the sound, then, has four flexible tubes attached to it, two for the electric current and two for the water current. Holding the collar with the left hand, the operator easily rotates the sound with his right, when, on looking through a central cavity forming the axis of the sound, any portion of the organ adjacent to the end of the sound is seen to be brilliantly illuminated. A small piece of gravel, a pellet of mucus, the rugæ and sinuses of the mucous lining of the bladder, of its natural tint, or with an inflammatory injection, may all be most clearly seen.

"As a triumph of mechanical skill over extreme difficulties, it is impossible to admire the performance too much. But it is necessary, on the other hand, to remark that much preparation of the bladder itself is necessary; that some irritation of the organ must be regarded as a highly probable result,—as, indeed, is often unavoidable from the use of this or of any other endoscope. If the urine is bloody or clouded with mucus, nothing is visible; the bladder must be washed, and then be partially distended with clear water or with air, before the instrument can be applied. If the urine is quite clear, no preliminary washing is necessary, and a few ounces should be present in the bladder. I may add that it is very easily used in the rectum, and that it has also been introduced into the stomach without difficulty, which it equally illuminates,—the bladder being the most difficult organ to deal with, on account of the narrowness of the channel which leads to it."

Sir Henry does not regard this instrument as likely to be of use in cases of difficult stricture or retention of urine. On the other hand, to make out the existence of sacculated stone as the cause of persisting and unrelieved symptoms, to detect pedunculated growths and villous disease of the bladder, removable by operation, and to investigate the nature of foreign bodies, other than calculi, which have become lodged there, this instrument is of value.

GASTRIC AND DUODENAL DIGESTION.—M. Th. Defresne has written a memoir on Gastric and Duodenal Digestion and on the action of Pancreatine. The conclusions at which he has arrived are, that the hydrochloric acid of the gastric juice is combined with an organic base which modifies its action and changes its properties. In order, therefore, to study peptic and pancreatic digestion, it is requisite to employ a solution of hydrochlorate of leucin prepared with the gastric mucous membrane. By this means peptic digestion may be compared with that which takes place in the stomach; it is not continuous or illimitable, but it can be filtered, and the residue can be determined. The acidity of the mixed gastric juice in the lapse of half an hour after ingestion is no longer due to hydrochlorate of leucin, but to the presence of lactic, sarcolactic, tartaric, malic, and other acids; and the best test of this reaction is pancreatine, which, after having remained for two hours in pure gastric juice, has no sensible effect upon starch, but after commixture with the mixed gastric juice, and neutralization, will convert seven times its weight of starch into sugar. This difference in the nature of the acidity of the pure and of the mixed gastric juice is rendered more manifest still by artificial digestion of azotized food. If the albumen has been previously macerated in hydrochloric acid, pancreatine, after neutralization of the fluid, only peptonizes five grammes of albumen; but if the albumen be macerated in water an artificial chyme is produced, and the pancreatine after neutralization can peptonize thirty-eight grammes of albumen. Pancreatine, therefore, does not undergo any alteration in chyme, but recovers all its activity in the duodenum; and one gramme of this substance can digest simultaneously thirty-eight grammes of albumen, seventy-five grammes of starch, and eleven grammes of lard.—*Lancet.*

CASE OF COMPLETE RIGOR MORTIS OF BOTH LEGS FOURTEEN HOURS BEFORE DEATH.—Dr. Alfred Finch (*Lancet*, vol. ii., 1879, p. 833) gives the case of a lady of 65, who, after fourteen days' voluntary starvation, had been seized with numbness and loss of power in both legs. On examination, both lower extremities were stone-cold as high as Poupart's ligament. There was œdema. The

skin was loose, but had lost its elasticity, so that on taking it between the fingers and pinching it into folds it retained some of them when relaxed. There was perfect muscular rigidity, and the knee could not be flexed with moderate force. No pulsation could be felt in either femoral. A pin thrust in was unnoticed and produced no reflex action. The surface of abdomen was warm, the boundary of sensation and warmth being sharply defined at Poupart's ligament; both completely absent below, but distinct above. There was no loss of power or sensation in the upper extremities, but the fingers were cold and livid. The facial expression was somewhat cadaverous. The whole body was very fairly nourished. The heart-sounds were feeble and slow, pulse barely perceptible at wrist. The breath had a peculiar earthy smell; the tongue was dry and coated with a thin white fur. Notwithstanding the vigorous use of stimulants and restoratives, death occurred on the next day. At the autopsy rigor mortis had disappeared. Extreme fatty degeneration of the heart was found, with atheromatous deposit in the neighboring vessels. The valves were healthy.

TREATMENT OF TRANSVERSE FRACTURE OF THE PATELLA.—Mr. A. Pearce Gould writes to the *Lancet* (vol. ii., 1879, p. 815) giving Macnamara's plan of treatment, with two illustrative cases:

"The first case was that of a hansom cabman, who was admitted to the Westminster Hospital, July 26, 1878, with a transverse fracture of the left patella, the fragments being one inch and a half apart even before effusion into the joint. On August 10 the joint was fully distended; it was found to be impossible to get the fragments in apposition, and Mr. Macnamara drew off the serous fluid from the joint, then subcutaneously severed the insertion of the quadriceps into the patella, and brought the fragments easily into close contact, and fixed them so with strapping, the limb being placed on a straight back splint. Later on, a plaster-of-Paris splint was adapted. The patient was last seen in August of this year,—rather more than twelve months after the accident; he had long since resumed his occupation, could easily hop on the left foot, and the union, which to all who saw the case appeared to be osseous, was so close that it was very difficult to feel the line of fracture.

"The second case was a porter at the House of Commons, admitted May 9, 1879. Next day the distended joint was emptied by the aspirator, and *serous* fluid drawn off. Mr. Macnamara then subcutaneously divided the muscle as in the above case, and, finding that was insufficient, also divided the ligamentum patellæ, when the fragments readily adjusted. The further treatment was the same as in the above case. There is very close union between the fragments, but it is fibrous, not osseous. The joint is stiff from long use of straight splints; the patella is not adherent to the femur, but moves over it freely. The patient finds his limb so useful that he does his work as well as before, and is loath to enter the hospital again to have passive motion applied."

A NEW METHOD FOR ARRESTING HEMORRHAGE WHEN AMPUTATING AT THE SHOULDER-JOINT.—Dr. Edwin Moore writes to the *Lancet* (vol. ii., 1879, p. 796), describing the following procedure. He says, "In cases of amputation at the shoulder-joint that have come under my observation, I have noticed the chief difficulty of the operation to consist in controlling the hemorrhage attending it, necessitating the aid of a quick and competent assistant. I have twice, in performing this operation, adopted a method which renders it almost a bloodless one. I lay a piece of calico bandage across the chest and upper part of the shoulder, and then fix an india-rubber cord or tourniquet round the shoulder over the bandage: this effectually compresses the axillary artery. In order to prevent the india-rubber cord from slipping, an assistant takes both ends of the bandage and holds them across the chest.

"If called upon to repeat the operation, I would pass a calico bandage under the india-rubber cord, *behind* as well as in front of the shoulder, then tie the four ends together, and thus dispense with the help of an assistant." A sketch accompanies the communication.

MISCELLANY.

MUTUAL ADMIRATION SOCIETIES.—At a recent meeting of the Dublin Obstetrical Society, the President, in his address, referred to the improvement which had taken place in the character of the remarks and speeches made before the Society. A critic of one of the earlier volumes of these Transactions had animadverted rather severely on the tendency towards mutual admiration. He said, "Throughout the book" (that is, one of the Reports) "we are treated to the desultory conversations which followed the recital of each paper on the night of meeting at which it was brought forward. How far the perusal of these usually trite, crude, and vapid remarks may tend to the improvement of the obstetric mind is a question, to say the least of it, problematical. We find a member described as having risen 'to express his *sense* of the value of Dr. ——'s paper.' Another informs the Society that it is, or ought to be, 'greatly indebted to Dr. —— for his able paper, containing so full and complete a history,' etc., etc. 'For his own part, etc., Dr. —— fully concurs in the remarks of the learned author.' One calls another 'the most recent and one of the ablest *exponents* of the modern school of gynæcology;' and,

after paying each other compliments and purring together for some time, the most recent exponent of modern gynæcology rises *to return thanks* to the Society for having patted him on the back and stroked him down; and, having patted all his brethren on their backs who had previously caressed him, 'he resumes his seat,' and the Society adjourns. Surely," continues the writer, "all this rubbish might have been omitted. The Report contains thirty passages of it." The publication of these observations only serves as a species of advertisement, and not, either, of the better class of such useful documents.

It is possible that even in this country such proceedings are at times not altogether unknown in the meetings of our learned societies.

TREATMENT OF TÆNIA.—Dr. Stein, of Frankfort, read a paper on this subject at the meeting of German *savants*, in which he states that of all remedies he prefers the *extractum filicis maris*, which has hitherto failed from having been given in insufficient doses. Preliminary treatment is useless and only irritates the animal. The remedy should be given in the dose of eight grammes, enclosed in eight capsules or in Limousin's capsules. The worm is not killed by it, but only stupefied, and it is essential while it is in this condition to bring it away as soon as possible. To this end, calomel should be either combined with the extract or a purgative given the next morning. His method has proved very successful.—*Deutsche Med. Woch.*, November 15, 1879.

NUTMEG-POISONING.—E. R., æt. 36, was delirious; pulse was accelerated and feeble; great prostration; pupils dilated; temperature about normal; stupor. On inquiry, found that about three o'clock that afternoon he had eaten a large nutmeg, and about seven in the evening symptoms of drowsiness and stupor set in, which increased till nine o'clock; thirty drops of aromatic spirit of ammonia, in brandy, every three hours. Strong coffee given freely. Free from unpleasant symptoms, but somewhat weak.—*Homœopathic Medical Times.*

DR. DAVID RICHARDSON, Superintendent and Physician-in-Chief of the Department for the Insane at the Philadelphia Almshouse, has been appointed Superintendent of the Asylum for the Insane at Warren, Pa. He has been connected with the Hospital for the Insane at the Almshouse for about seventeen years, and by his long experience is well fitted for the position which he has received.

INFRINGEMENT OF COPYRIGHT.—Dr. William A. Hammond and D. Appleton & Co. have begun suit against Dr. Allan McLane Hamilton and Henry C. Lea for an infringement of the copyright of the work on Disease of the Nervous System, written and published by the first-named gentleman. Dr. Hammond has commenced suits before, but we never knew one to get beyond the stage of bluster. We wonder if this one means business?

NOTES AND QUERIES.

WINE OF IPECAC IN THE VOMITING OF PREGNANCY.

PROF. H. C. WOOD,
Editor *Philadelphia Medical Times:*

MY DEAR DOCTOR,—Some time since, I saw recommended in a foreign journal, which one I cannot remember, the administration of small doses of *wine of ipecac* in the vomiting of pregnancy. The beneficial result of its use has been so striking in several very obstinate cases that I think it deserves a more extended trial. *Four* to *six drops* of the wine in a wineglassful of cold water, frequently repeated if necessary, will, in many cases, not only check the vomiting, but even relieve the nausea and fulness that precede it. In some cases of dyspepsia, where nausea and epigastric fulness are prominent symptoms, this simple remedy will often give relief. Have you ever used it?

I remain, very respectfully, yours,
January 18, 1880. JNO. M. KEATING.

DEAR SIR,—Will you do me the favor of inserting these few lines in your much-esteemed journal? I am sorry to find that the translation of my "Manual of Examination of the Eye," by Dr. Swan M. Burnett, of Washington, contains some errors that I cannot allow to pass unnoticed, both for my readers' sake and for my own. I have, therefore, had an appendix printed at my own expense, and have sent it to the editor, Mr. Brinton, M.D., who will be kind enough to deliver a copy to any former purchaser of my work who may desire one, and also to add it to as many of my books as he still has in his possession. Allow me also to add that a "Lesson on Ophthalmoscopic Enlargement," but of which the manuscript arrived in Philadelphia too late for publication, has just appeared in the first number, for 1880, of the *British Medical Journal*. I beg, therefore, those of my colleagues who have my work to apply for this lesson, as well as for the Appendix, either to Mr. Brinton, M.D., Medical Publication Office, No. 115 South Seventh Street, Philadelphia, or to me, 8 Rue de la Bienfaisance, Paris.

I am, dear sir, truly yours,
DR. LANDOLT.

PARIS, December 12, 1879.

THE IMPROVED AUDIPHONE.

DR. CHARLES H. THOMAS, of this city, at the meeting of the Philadelphia County Medical Society held on December 10, 1879, announced that he had been making a number of experiments upon audiphones, and that at the following meeting of the Society he would present some modifications of the original instrument. On December 17 he accordingly presented and explained the audiphone, and demonstrated the fact that a number of substances were better adapted for the purpose than are the original materials. Of all the substances experimented with, the fuller's board (press-board) saturated with shellac varnish gives the best results. In our next issue of the journal an elaborate account of the experiments will appear.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM JANUARY 11 TO JANUARY 24, 1880.

TAYLOR, M. K., CAPTAIN AND ASSISTANT-SURGEON.—The leave of absence granted him from Headquarters, Department of Texas, is extended one month. S. O. 9, Military Division of the Missouri, January 19, 1880.

TAYLOR, B. D., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Assigned to temporary duty at Governor's Island, N. Y. Harbor, as assistant to the Attending Surgeon at Division and Department Headquarters, and to the Post-Surgeon, Fort Columbus. S. O. 7, Department of the East, January 12, 1880.

WORTHINGTON, J. C., FIRST-LIEUTENANT AND ASSISTANT-SURGEON.—Relieved from duty at Fort Grant, A. T., and assigned to duty at Fort McDowell, A. T. S. O. 4, Department of Arizona, January 8, 1880.